

What is claimed is:

1 1. A drum-type washing machine comprising:
2 a water discharge pump for circulating water;
3 a tub for containing laundry, the circulating water of said water discharge pump being
4 adsorbed in the laundry;
5 a water circulating pipe, in communication with said tub, for re-circulating the water
6 circulated by said water discharge pump; and
7 water adsorption acceleration means, disposed at one end of said water circulation
8 pipe, for facilitating the adsorption of water in the laundry by processing the re-circulated
9 water before reintroduction to said tub via said water circulation pipe.

1 2. The drum-type washing machine as claimed in claim 1, wherein said water
2 adsorption acceleration means processes the re-circulated water by electrically charging the
3 water in said water circulating pipe before reintroduction to said tub.

1 3. The drum-type washing machine as claimed in claim 2, said water adsorption
2 acceleration means comprising:
3 a pair of electrodes fitted onto opposing inner surfaces of said water circulating pipe;
4 and
5 a power source for applying a DC voltage to said electrodes.

1 4. The drum-type washing machine as claimed in claim 3, wherein the DC
2 voltage of said power source is obtained by rectifying the output of a step-down transformer

3 supplied with commercial AC voltage.

1 5. The drum-type washing machine as claimed in claim 1, wherein said water
2 adsorption acceleration means processes the re-circulated water by generating an ultrasonic
3 wave in the water in said water circulating pipe before reintroduction to said tub.

1 6. The drum-type washing machine as claimed in claim 5, said water adsorption
2 acceleration means comprising:

3 a pair of ultrasonic vibration plates, fixed to opposing outer surfaces of said water
4 circulating pipe, for applying a mechanical vibratory energy to the water in said water
5 circulating pipe; and

6 an ultrasonic oscillator 90a for generating an ultrasonic wave of a predetermined
7 frequency to be applied, via said ultrasonic vibration plates, as the mechanical vibratory
8 energy to the water in said water circulating pipe.

1 7. The drum-type washing machine as claimed in claim 6, said water adsorption
2 acceleration means further comprising:

3 an ultrasonic transducer, attached to said ultrasonic vibration plates, for transducing a
4 power of the ultrasonic wave of said ultrasonic oscillator into the mechanical vibratory energy
5 applied to the water in said water circulating pipe.

1 8. The drum-type washing machine as claimed in claim 1, further comprising:
2 electrical charging means, installed in the one end of said water circulating pipe, for
3 electrically charging the water in said water circulating pipe; and

4 ultrasonic wave generating means, installed in the one end of said water circulating
5 pipe, for generating an ultrasonic wave in the water in said water circulating pipe,

6 wherein the respective installations of said electrical charging means and said
7 ultrasonic wave generating means are in close succession to one another.

1 9. The drum-type washing machine as claimed in claim 8, wherein said
2 electrical charging means is disposed in preference to said ultrasonic wave generating means,
3 with respect to a directional flow of the water in said water circulating pipe.

1 10. The drum-type washing machine as claimed in claim 1, wherein the one end
2 of said water circulation pipe is an exiting end.